

Lawrence Berkeley National Laboratory

**International Glazing Database:
Data Submission Procedure**

Version 1.4

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1 INTRODUCTION

1.1 INSTRUCTIONS TO THE READER

This document is part of a set of documents that needs to be referenced when submitting data for the International Glazing Database. The set of documents comprises of the following documents:

- IGDB data submission procedure (this document) → describes in general terms the procedure that needs to be followed for submitting new data to the IGDB
- IGDB data file format → describes the exact format for submitting data to the IGDB
- IGDB data submission form → required form for data submission

1.2 BACKGROUND

The International Glazing Database is a public database containing spectral optical properties and other information on more than 1000 glazing products. Maintenance of the database is done by the Windows and Daylighting Group of the Lawrence Berkeley National Laboratory (LBNL). Data submission can be done through the Windows and Daylighting Group of the LBNL. It is expected that submission of data from European manufacturers can soon also be done through the Oxford Brookes Laboratory (for European glazing data only).

The format of the International Glazing Database has been changed from a library of *WINDOW4.1* data files to a Microsoft Access® database that is used by *WINDOW5*, *OPTICS5*, *WIS* and other programs. The format for submitting spectral data is still based on (and 100% compatible with) the *WINDOW4.1* data file format – see the *WINDOW4.1* manual for details on the layout of this file. The information that can be supplied for each new glazing product is significantly more elaborate than it was for *WINDOW4.1*.

1.3 ACKNOWLEDGEMENT

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2 DATA SUBMISSION PROCESS

2.1 INTRODUCTION

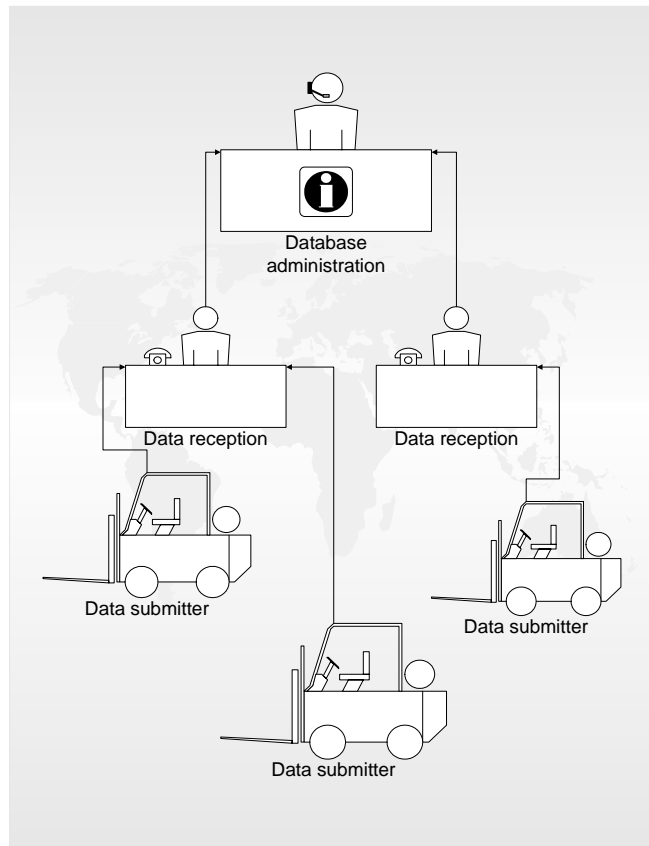


Figure 1 – Relationships between data submitters, data reception and database administration.

There are four different groups playing a role in the data submission:

- Data submitters
- Data reception institutes
- Peer review group (not shown in the figure above)
- Database administration

Data submitters send their measured data to one of the two data reception institutes (physically located in the US and in Europe). The data reception institutes check the data on format and obvious errors and send the data to the peer review group. After acceptance of the data by the peer review group the data is sent to the database administration, which updates the database with the new data.

2.2 DATA RECEPTION INSTITUTES

Currently there are two data reception groups:

- Lawrence Berkeley National Laboratory - Windows and Daylighting Group
- Oxford Brookes University – School of Technology

The Lawrence Berkeley Laboratory accepts data from all manufacturers. Oxford Brookes University is in the process of accepting data from European manufacturers. New data or inquiries should be sent to:

LBNL

Mehry Yazdanian

E-mail: IGDB@lbl.gov

2.3 DATABASE ADMINISTRATION

The database management and administration is performed by the Lawrence Berkeley National Laboratory - Windows and Daylighting Group.

2.4 DATA SUBMISSION PROCESS

Figure 2 shows a graphical overview of the data submission process. The following time estimates for each step can be given:

- Comparison of measurements for first time data submitters: About three weeks, depending on the availability of the independent measurement lab, complexity of the data, number of products.
- Format check: About one week, depending on the errors in the format. The format check is largely done automatic, but some changes may be needed which require interaction between the data submitter and the IGDB reception institute.
- Technical data review: About two weeks, depending on the complexity of the product/data, number of data files. When errors are found or questions about the data arise, interaction between the data submitter and the IGDB reception institute may be needed to resolve issues before the process can be continued.
- Peer review: Three weeks.
- Database update: The database update may be released any time between 1 day or 2 weeks after the peer review is finished, depending on the amount of new files and other data pending in peer review.

Therefore, the total time between data submission and data release can be between 4 weeks and 9 weeks depending on the quality of the data, the amount of submitted products, etc.

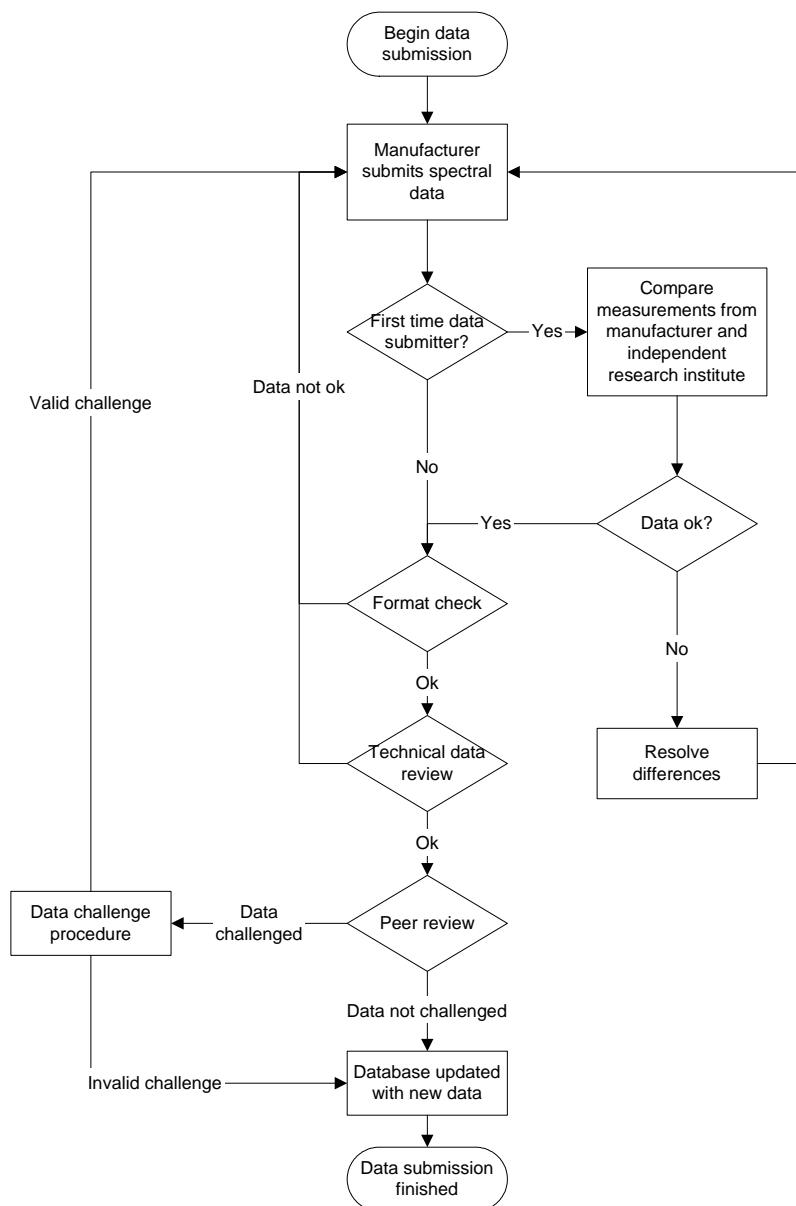


Figure 2 – Flowchart of data submission process.

If you are a first time data submitter, please make yourself familiar with the format of the data file, before submitting any data to the IGDB reception institutes.

3 DATA SUBMISSION REQUIREMENTS

For data to be accepted a number of requirements should be met. These requirements can be distinguished in 4 different groups:

1. Requirements on the data submitter
2. Requirements on the glazing product
3. Administrative requirements
4. Requirements on the data

3.1 REQUIREMENTS ON THE DATA SUBMITTER

The data submitter must have proven that the company meets the minimum requirements by participating in proficiency testing. This is done in the form of comparisons between measurements performed by the manufacturer and independent research labs, participation in round-robins (interlaboratory comparisons) and participation in proficiency testing under auspices of national and international organizations such as NFRC, WinDat or GEPVP.

3.2 REQUIREMENTS ON THE GLAZING PRODUCT

Not all glazing products can be submitted to the database. The database was originally designed as a database for simple, specular glazings, so its format may not always be suited to hold the correct (spectral) information that is needed to correctly quantify the properties of all products, such as diffusing/scattering glazings. Secondly, the calculation routines that are used in programs that use the database have restrictions on the type of glazing to which they can be applied.

Data for the following glazing types can be submitted only:

- Glazings with specular front and back reflection and transmission. These can be monolithic glazings, coated glazings, laminates, films, applied films, interlayers...
- Data for interlayers cannot be measured directly and is determined in an indirect way.
- Glazings which are slightly diffusing, where the diffusivity is the result of internal homogenous dispersion properties only

Data cannot be submitted for the following glazing types (this list is not exclusive):

- Glazings that are not plane parallel, such as lenses
- Glazings that are dispersing, such as prisms
- Glazings that are polarizing
- Glazings that are highly diffusing
- Complex glazings, usually characterized by BTRF, such as with venetian blinds
- Glazings with macroscopic patterns, frits, etc.

3.3 REQUIREMENTS ON THE DATA

The data that is submitted must meet certain requirements regarding format, accuracy, wavelength interval, etc. Data can only be accepted if it complies with the data requirements laid down in: "IGDB data submission reference.doc", which can be retrieved from the IGDB website

3.4 ADMINISTRATIVE REQUIREMENTS

When submitting new data an e-mail containing the following package, should be sent to one of the data reception institutes:

- One or more text files (one file for each glazing product) containing the spectral data and the correct header information. Note that the filename of the datafiles is the filename that will appear in the IGDB. The filename is case-sensitive and will appear exactly as you submitted it.
- A completely filled in Data Submission Form.
- A preliminary check on each spectral data file should be performed. A checklist for this preliminary check is given in chapter 4.

4 NFRC ACCEPTANCE

For each submitted data file it is possible to ask for and receive NFRC acceptance (National Fenestration Rating Council). NFRC accepted data will receive a special sign in the database to discriminate it from non NFRC accepted data: #. NFRC accepted data can be used with NFRC approved software to perform NFRC approved calculations.

The criteria for NFRC acceptance are determined by the NFRC, not by the IGDB administration. When you request NFRC acceptance you will have to perform two steps:

1. Inform the NFRC that you are requesting NFRC acceptance for your data. NFRC can give you all the information of the exact procedure for this and the requirements it puts on data submitters and the data in order to fulfill this request.
2. Add a special line in the data submission text files indicating that you are requesting NFRC acceptance. The IGDB administration will automatically process this request and add the #- sign to the data.

When you have requested NFRC acceptance the data is sent out for peer review with the #- sign included. If you did not fulfill all NFRC requirements in step 1, the NFRC may request the IGDB administration to remove the #- sign.

Please note that the IGDB administration never decides about NFRC acceptance. The NFRC has the final say about NFRC acceptance and the IGDB administration will always remove the #- sign when requested to do so by the NFRC.

5 PRELIMINARY CHECKS

Before submitting new data to LBNL, the data submitter shall perform a number of preliminary checks on the data files. The following checklist may be useful:

- Filename in DOS 8.3 format?☐
- Unit system and thickness and conductivity agree?☐
- Wavelength units and values agree (microns start 0.300, nanometers start 300)?☐
- Header format?☐
- Spectral data format ok?☐
- Data file can be imported in *OPTICS5*?☐
- Sample(s) stored according to the requirements?.....☐
- If the product belongs to a range of products with different thickness, does the spectral data fit into the expected pattern?☐